

NEWS RELEASE



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Report and Case Study Highlight Capabilities of Asphalt Pavements to Improve Transportation Infrastructure Resilience

Includes First-of-Its-Kind Toolkit for Designing and Implementing Resilient Asphalt Pavements

GREENBELT, MD—What does resilience mean in the context of asphalt pavements?

[*Resilient Asphalt Pavements: Industry Solutions for the Resilience Goal*](#), a new report by Auburn University’s Benjamin Bowers, PhD, PE, and Fan Gu, PhD, PE, provides the first compendium of information about resilience for the asphalt industry. It includes 10 recommendations for the industry, transit agencies, and researchers/academia to further enhance the resilience of asphalt pavements and the communities they serve.

Published by the National Asphalt Pavement Association (NAPA), the report documents innovative use of existing technologies and practices that enhance the resilience of asphalt pavements and, importantly, transportation networks as a whole. Bowers and Gu note the ability of these as well as future tools to create “the more resilient pavement network of the future.” Underscoring this point, they note that roadway resilience isn’t limited to a structure itself, but includes entire transportation systems as well as the communities they serve.

The report features a case study, also by Bowers and Gu, of Interstates 680 and 29 in Iowa, which flooded twice in a span of three months in 2019. The case study explored two techniques to reopen roadways in just days, saving \$200,000 per day in user delay costs, clearly demonstrating the value of rapid construction with asphalt pavement. Furthermore, “asphalt was used in innovative ways to create temporary flood damage mitigation techniques in the event that additional flooding occurred”



during construction activities. The projects, planned and executed through collaboration between the agency and the paving contractor, helped people and communities reconnect and recover from catastrophic floods.

The authors recommend employing vulnerability assessments and risk analyses of individual roadways and transportation systems to identify fortification opportunities before disaster strikes. Such assessments help transportation agencies determine the probability and consequences of failures, so appropriate and cost-effective resilient solutions can be designed and implemented.

Among potential solutions, Bowers and Gu examine eight related to asphalt pavement—for example, using climate models in pavement design and material selection. “When agencies, engineers, and designers build resilience into the design process, they must consider the future climate, not simply historical climate,” the report states.

The 20-page report is available free to NAPA members as well as nonmembers. Download the PDF here: <https://member.asphaltpavement.org/Shop/Product-Catalog/Product-Details?productid={6399F00E-2392-EB11-B1AC-000D3A9A6645}>.

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The National Asphalt Pavement Association is the only trade association that exclusively represents the interests of the asphalt pavement material producer/contractor on the national level with Congress, government agencies, and other national trade and business organizations. NAPA supports an active research program designed to improve the quality of asphalt pavements and paving techniques used in the construction of roads, streets, highways, parking lots, airports, and environmental and recreational facilities. The association provides technical, educational, and marketing materials and information to its members; supplies product information to users and specifiers of paving materials; and conducts training courses. The association, which counts more than 1,200 companies as its members, was founded in 1955.